

9.1 Sampling

Simple Random Sampling

Simple random sampling is where every person or item in the population has an _____ of being in the sample, and each selection is _____ of the others.

To choose a simple random sample:

- Give a _____ to each population _____, from a _____ of the population
- Generate a list of _____ and _____ them to the numbered members to select your sample

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Simple Random Sampling

Simple random sampling is where every person or item in the population has an **equal chance** of being in the sample, and each selection is **independent** of the others.

Advantage

Every member of the population has an _____ of being selected, so it's completely _____

Disadvantages

It can be _____ if the population is spread over a _____ – it might be difficult to track down the selected members

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Systematic Sampling

Systematic sampling selects every ____ member from the population you're investigating.

To choose a systematic sample:

- _____ each member of the population from a _____
- Calculate a _____ to use by dividing the population size by the sample size
- Generate a _____ starting point to choose the _____ of your sample
- Keep _____ the interval to the starting point to select your sample

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Systematic Sampling

Systematic sampling selects every n th member from the population you're investigating.

Advantages

- It can be used for _____ on a production line – a machine can be set up to sample every n th item
- It should give an _____ sample

Disadvantage

If the interval coincides with a _____ in the population, the sample could be _____

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Stratified Sampling

If a population is divided into _____ (e.g. age or gender), you can use a stratified sample – this uses the same proportion of each _____ in the sample as there is in the population.

To choose a stratified sample:

- Divide the population into _____
- Calculate the number needed for each category in the sample using the formula:
- _____ select the sample for each category

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Stratified Sampling

Advantages

- If the categories are _____ (no overlap, e.g. age groups), this should give a _____ sample
- It's useful when results may _____ depending on categories

Disadvantages

The extra detail needed can make it _____

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Quota Sampling

Quota sampling is often used in _____. The interviewer will be given a quota of people in each category to interview (e.g. 20 men and 20 women). They then choose people to interview until the _____.

To choose a quota sample:

- Divide the population into _____
- Give each category a _____ (number of members to sample)
- Collect data until the quotas are met in _____ (_____ using random sampling)

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Quota Sampling

Advantages

- It is _____ for the interviewer as they don't need _____ to the whole population, or a _____ of every member
- The interviewer continues to sample until all the quotas are met, so _____ - _____ is less of a problem

Disadvantage

It can be _____ by the interviewer – selection isn't random, so they might _____ some of the population

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Opportunity Sampling

Opportunity (or _____) sampling is where the sample is chosen from a selection of the population that is most _____ for the sampler.

To choose an opportunity sample:

- Choose members of the population that are the _____ to sample – e.g. ask the first people you meet or sample whatever _____ you can find.

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Opportunity Sampling

Opportunity (or convenience) sampling is where the sample is chosen from a selection of the population that is most **convenient** for the sampler.

Advantage

- Data can be gathered very _____ and _____

Disadvantage

It _____ and can be _____ – there's no attempt to make the sample representative

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Cluster Sampling

Cluster sampling is another method that's useful when the population can be divided into _____. The clusters should be groups that you expect to give _____ results to each other.

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Cluster Sampling

To choose a cluster sample:

- Divide the population into _____ covering the _____, where _____ of the population belongs to _____.
- _____ select clusters to use in the sample, based on the required sample size.
- Either use _____ the members of the selected cluster (a _____ cluster sample), or _____ within each cluster to form the sample (a _____ cluster sample).

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Cluster Sampling

Advantages

- It can be more _____ (e.g. quicker or cheaper) in certain situations.
- You can incorporate _____ sampling methods, making it quite _____.

Disadvantages

- Because you only sample certain clusters, the results could be less _____.
- It's not always possible to _____ a population into clusters in a natural way.

You can use _____ of the _____ for _____ of the sample, depending on the _____

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Self-selection Sampling

Self-selection (or _____) sampling is where people _____ to be part of the sample – e.g. they choose to complete a _____ or _____ to take part in a study.

To create a self-selection sample:

- _____ or appeal to the whole population for participation in the sample (possibly offering payment).
- Either use _____ who responds as the sample, or take a sample of them to best _____ the population.

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Self-selection Sampling

Advantages

- It requires _____ or _____ in finding sample members, as they contact you.
- People who have _____ are less likely not to respond.
- It could be the only way to get people to take part in a study, or to find _____ of a population.

Disadvantage

- There can easily be _____ within the respondents, such as people having _____, which would lead to _____.